Amendments to the Drawings

The attached sheets of drawings include changes to Fig. 4 and Figs. 5A-5D. These sheets, which include Figs. 3 - 4 and 5A-5D, respectfully, replace the original sheets including Figs. 3 - 4 and 5A-5D. In Figs. 4 and 5A-5D the figures have been corrected to include a "Prior Art" designation as indicated in the annotated changes to drawings sheet.

Atttachment: Replacement Sheets (2 pages)
Annotated Sheets Showing Changes (2 pages)

REMARKS

The Office Action dated February 15, 2006 has been received and considered. In this response, claims 1, 6, 7, 13 and 30 have been amended. Support for the amendments may be found in the specification and drawings as originally filed. Reconsideration of the outstanding rejections in the present application is respectfully requested based on the following remarks.

Anticipation Rejection of Claims 1-6, 10-16, 18 and 30-33

Claims 1-6, 10-16, 18 and 30-33 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 5,562,345 to Heyman et al. This rejection is hereby respectfully traversed with amendment. Claim 1 has been amended to more clearly claim the present invention and to place the claims in condition for allowance and advance prosecution.

Applicants assert that the Heyman reference is inapposite. The Heyman reference is directed to the heating of the "surface" of a laminated structure and then the measurement of the transient temperatures with a plurality of in-line thermal sensors. Heyman specifically states in the Summary of the Invention at col. 2, lines 2-15, that the object of the method and apparatus is directed to employing:

> "A heat source such as a magnetic induction/eddy current generator remotely heats a region of a **surface** of a test structure to a desired depth. For example, the frequency of the heating source can be varied to heat to the desired depth. A thermal sensor senses temperature changes in the heated region as a function of time." (emphasis added).

Heyman further defines the scope of its teachings at col. 5, lines 29-35, as being "the injection of heat into the surface of a laminated structure with a disbond results in a surface temperature profile which increases in the region of disbond. By heating over only a small region of the surface and then recording the rate of temperature change at the

center of the heating area, a determination of the bond integrity of the laminate at that location can be made."

In an example of the test material described at col. 4, lines 47-53, as being a steel-rubber-aluminum laminate sample S fabricated with a known defect or flaw F in an inner layer. The sample consisted of a sheet of steel 0.16 cm thick, backed by a layer of rubber which was 0.63 cm thick, which was backed by a layer of aluminum 2.54 cm thick. The entire sample was 19.0 cm square.

Applicants assert that it obvious that Heyman only teaches the heating of the surface. A heating of the test material volumetrically would not generated any eddy currents in the .63 cm thick rubber layer. Additionally, even if Heyman contemplated the heating of the aluminum backing layer, which there is no evidence to suggest such a contemplation in the disclosure, the thermal energy would have to diffuse through the rubber layer and by the time it reach the surface of the structure, if at all, the thermal signature would be so diffuse as to be useless in detecting disbonds.

M.P.E.P. § 2131 states, " A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California,* 2 USPQ2d 1051, 1053 (Fed. Cir. a1987). "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1987).

Applicant submits that independent Claims 1 and 33, as amended, are not expressly or inherently described and that each and every element is not disclosed in the Heyman prior art reference. In that Heyman does not expressly or inherently described the injecting of induction energy volumetrically below the surface of the composite laminate structure. Therefore, in view of the foregoing, Applicant respectfully requests the withdrawal of the § 102(b) rejection of independent Claims 1 and 33 and dependent claims 2-6 and 12-16 and 34-35, which depend from independent Claims 1 and 33, respectively, and there timely allowance at this time.

Obviousness Rejection of Claims 7-9, 17, 19, and 20-21

Claims 7-9 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 5,562,345 to Heyman et al in view of U.S. Patent 6,394,646 to Ringermacher et al.

Claims 17 and 19 stand rejected under 35 USC § 103(a) being unpatentable over U.S. Patent No. 5,562,345 to Heyman et al in view of the prior art disclosed by Applicant in paragraph 63 of the specification.

Claims 20 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heyman and the Prior Art, as applied to claims 17 and 19, and further in view of U.S. Patent 5,70-,469 to White et al.

Applicants respectfully traverse the above rejections as follows.

MPEM § 2143.01 states that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants assert that the *prima facie* case of obviousness has not been met. For the reasons stated in the § 102(b) traversal above, Applicants submit that the Heyman reference does not teach either expressly or inherently the deposition of induction energy volumetrically below the surface of composite laminate structure. Applicants further submit that the Heyman reference in view of Ringermacher, and Heyman in view of the Prior Art and in further view of White taken alone or in combination do not teach or suggest the deposition of induction energy volumetrically below the surface of composite laminate structure.

Applicants further assert that the only suggestion for the deposition of induction energy volumetrically below the surface of composite laminate structure comes from Applicants' disclosure. MPEP § 2141 states specifically that when applying 35 U.S.C. § 103, one of the tenets of patent law that must be adhered to is that the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention.

In view of the foregoing, it is respectfully submitted that the obviousness rejection of claims 7-9, 17, 19 and 21-22 is improper at this time and withdrawal of this rejection and their timely allowance is respectfully requested.

Conclusions

In view of the foregoing, Applicant respectfully requests the timely allowance of all pending claims.

Respectfully submitted,

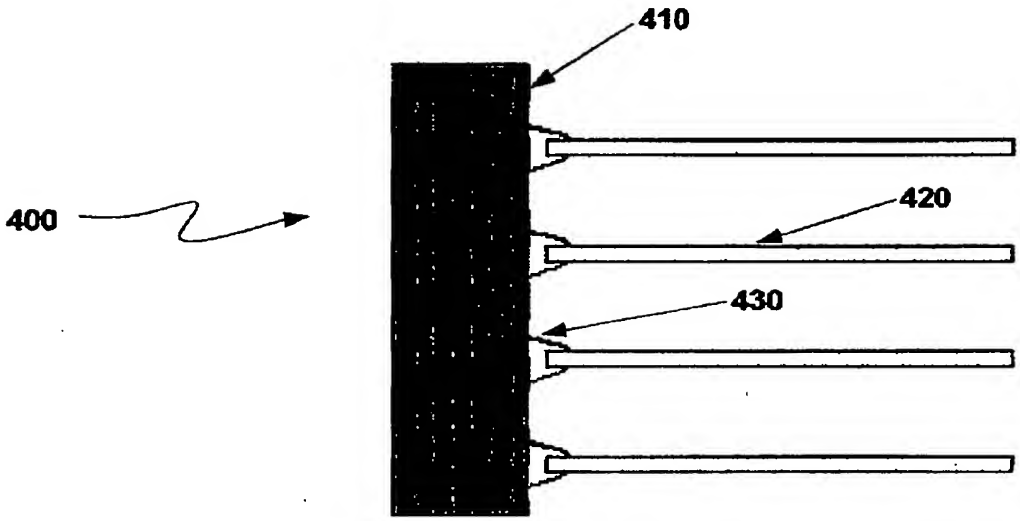
By: _____

Hayward A. Verdun

Reg. No. 43,223

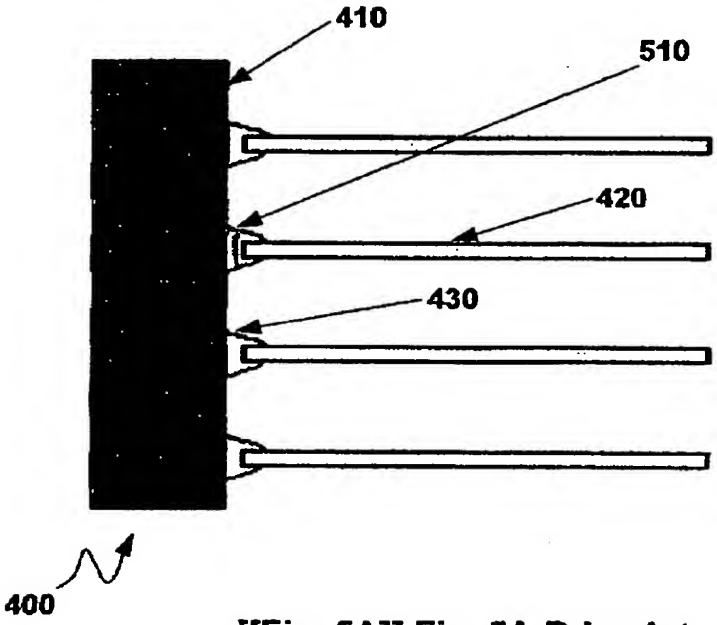
Dated: October 31, 2006

Appl. No. 10/802/121
Amdt. Dated July 17, 2006
Reply to Office Action of Feb. 15, 2006
Annotated Sheet Showing Changes

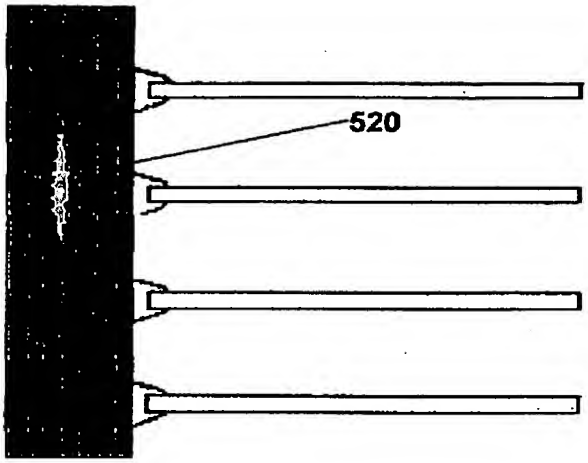


[[Fig. 4]] Fig. 4Prior Art

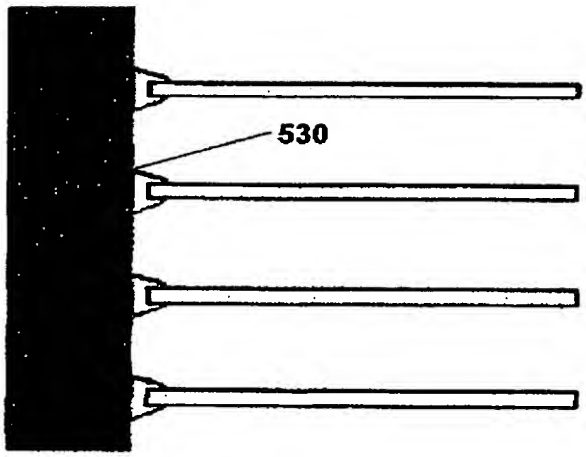
Appl. No. 10/802/121
Amdt. Dated July 17, 2006
Reply to Office Action of Feb. 15, 2006
Annotated Sheet Showing Changes



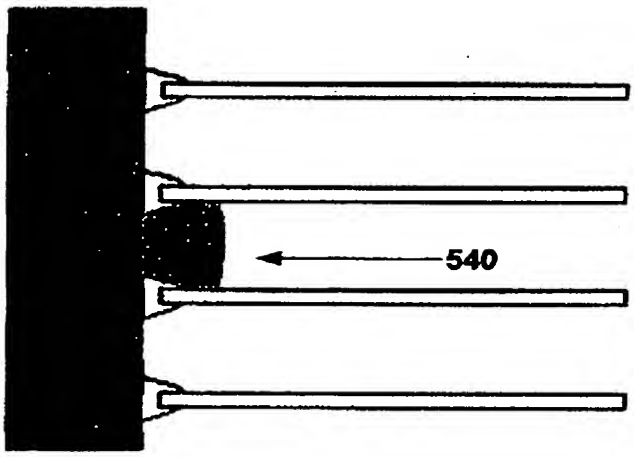
[[Fig. 5A]] Fig. 5A Prior Art



[[Fig. 5B]] Fig. 5B Prior Art



[[Fig. 5C]] Fig. 5C Prior Art



[[Fig. 5D]] Fig. 5D Prior Art